



Center for Electromog Prevention

a California nonprofit working to
protect public health

Coronavirus & 5G

IS THERE A CONNECTION?

ALERT: NEW STATEMENT BY DR. MARTIN PALL: “5G radiation and the COVID-19 pandemic: Coincidence or causal relationship” (Pall, March 30, 2020)

ALERT: PRELIMINARY RESEARCH BY DR. MAGDA HAVAS, PHD, SHOWS AN APPARENT CONNECTION, IN THE UNITED STATES, BETWEEN 5G, MORE COVID-19 CASES, AND COVID-19 DEATHS. (April 22, 2020)

“Is there an association between covid-19 cases/deaths and 5G in the United States?” (Dr. Magda Havas, PhD, Trent U. School of the Environment)
“Covid-19 cases per million are 95% higher and covid-19 deaths per million are 126% higher in states with 5G.” <https://magdahavas.com/is-there-an-association-between-covid-19-cases-deaths-and-5g-in-the-united-states/>

IN AUGUST, 2019, A HOST OF PROMINENT SCIENTISTS WARNED THAT THE SCIENTIFIC LITERATURE PROVIDED STRONG **EVIDENCE FOR 5G'S MICROWAVE AND MILLIMETER WAVE EMISSIONS TO HAVE “A SYSTEMIC EFFECT ON IMMUNE FUNCTION” AND “ACCELERATED VIRAL REPLICATION”** in a [formal review article](#). At this writing, an increasing number of scientists and lay people feel *there may be a link to 5G & coronavirus*. The scientists' warnings were ignored by industry and gov't last summer – and this status persists even now, in March, 2020, when we are in the midst of a pandemic, following the initial rollout of 5G in China, with Wuhan, China, Hubei Province being the epicenter of both the 5G rollout and where the COVID-19 coronavirus broke out in Dec. 2019.

1. 5G infrastructure exposures lower our immune system, as does wireless exposures to microwave radiation
2. 5G frequencies cause accelerated viral replication.
3. Wuhan China is the world's first “smart city” with 10,000 small cells *deployed and activated in the last 2.5 months of 2019*, which is *exactly when this COVID-19 coronavirus outbreak occurred*.

Can the association be proven? Do we have time and capacity to do so, in the face of this world emergency? Neither is likely, though we have no doubt this factor will be investigated and discussed for years to come.

However, we can take meaningful precautionary, prudent action based on this information. In order to potentially slow the effect of coronavirus, at the very least, **we strongly suggest that, under the current “state of emergency” in many nations, states, and locales, all 5G infrastructure should be deactivated and halted, using an abundance of caution! All 5G satellites being deployed should be deactivated and halted.** Please also consider turning off and reducing use of as much personal and commercial wireless as possible.

Review Article:

Front[iers in] Public Health, 13 August 2019 | <https://doi.org/10.3389/fpubh.2019.00223>

Risks to Health and Well-Being From Radio-Frequency Radiation Emitted by Cell Phones and Other Wireless Devices

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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6701402/>

“The Telecom industry’s fifth generation (5G) wireless service will require the placement of many times more small antennae/cell towers close to all recipients of the service, because solid structures, rain and foliage block the associated millimeter wave RFR (72). Frequency bands for 5G are separated into two different frequency ranges. Frequency Range 1 (FR1) includes sub-6 GHz frequency bands, some of which are bands traditionally used by previous standards, but has been extended to cover potential new spectrum offerings from 410 to 7,125 MHz. Frequency Range 2 (FR2) includes higher frequency bands from 24.25 to 52.6 GHz. Bands in FR2 are largely of millimeter wave length, these have a shorter range but a higher available bandwidth than bands in the FR1. 5G technology is being developed as it is also being deployed, with large arrays of directional, steerable, beam-forming antennae, operating at higher power than previous technologies. 5G is not stand-alone—it will operate and interface with other (including 3G and 4G) frequencies and modulations to enable diverse devices under continual development for the “internet of things,” driverless vehicles and more (72).”

Novel 5G technology is being rolled out in several densely populated cities, although potential chronic health or environmental impacts have not been evaluated and are not being followed. Higher frequency (shorter wavelength) radiation associated with 5G does not penetrate the body as deeply as frequencies from older technologies although its effects may be systemic (73, 74). **The range and magnitude of potential impacts of 5G technologies are under-researched, although important biological outcomes have been reported with millimeter wavelength exposure. These include oxidative stress and altered gene expression, effects on skin and systemic effects such as on immune function (74). In vivo studies reporting resonance with human sweat ducts (73), acceleration of bacterial and viral replication, and other endpoints indicate the potential for novel as well as more commonly recognized biological impacts from this range of frequencies, and highlight the need for research before population-wide continuous exposures.” (p. 11-12 of 34)**

Dr. Martin Pall’s white paper makes the case for Wuhan, China’s being both the epicenter of the world’s first complete “smart city” with a 5G rollout and the outbreak of this deadly pandemic at exactly the same time.

Massive Predicted Effects of 5G in the Context of Safety Guideline Failures:

Very High-Level VGCC Sensitivity to Low-Intensity EMFs and Especially to Pulsations (Dr. Martin Pall, Feb. 25, 2020)

“Role of 5G in the Coronavirus Epidemic in Wuhan China

“Wuhan, the capital of Hubei province in China, was chosen to be China’s first 5G “smart city” and the location of China’s first smart 5G highway. Wuhan is also the center of the horrendous coronavirus epidemic. The possible linkage between these two events was first discussed in an Oct. 31, 2019 article entitled: “Wuhan was the province where 5G was rolled out, now the center of deadly virus” <https://5g-emf.com/wuhan-was-the-province-where-5g-was-rolled-out-now-the-center-of-deadly-virus/>

“The question that is being raised here is not whether 5G is responsible for the virus, but rather whether 5G radiation, acting via VGCC activation may be exacerbating the viral replication or the spread or lethality of the disease. Let’s backtrack and look at the recent history of 5G in Wuhan in order to get some perspective on those questions. An Asia Times article, dated Feb. 12, 2019 (<https://www.asiatimes.com/2019/02/article/china-to-launch-first-5g-smart-highway>) stated that there were 31 different 5G base stations (that is antennae) in Wuhan at the end of 2018. There were plans developed later such that approximately 10,000 5G antennae would be in place at the end of 2019, with most of those being on 5G LED smart street lamps. The first such smart street lamp was put in place on May 14, 2019 (www.china.org.cn/china/2019-05/14/content_74783676.htm), but large numbers only started being put in place in October, 2019, such that there was a furious pace of such placement in the last 2 ½ months of 2019. These findings show that the rapid pace of the coronavirus epidemic developed at least roughly as the number of 5G antennae became extraordinarily high. So we have this finding that China’s 1st 5G smart city and smart highway is the epicenter of this epidemic and this finding that the epidemic only became rapidly more severe as the numbers of 5G antennae skyrocketed.

“Are these findings coincidental or does 5G have some causal role in exacerbating the coronavirus epidemic? In order to answer that question, we need to determine whether the downstream effects of VGCC activation exacerbate the viral replication, the effects of viral infection, especially those that have roles in the spread of the virus and also the mechanism by which this coronavirus causes death.

“Accordingly, the replication of the viral RNA is stimulated by oxidative stress:

- “ *J Mol Biol.* 2008 Nov 28;383(5):1081-96. Variable oligomerization modes in coronavirus non-structural protein 9. Ponnusamy R, Moll R, Weimar T, Mesters JR, Hilgenfeld R.
- “ Other aspects of viral replication including those involved in the spread of the virus are stimulated by increased intracellular calcium [Ca²⁺]_i, oxidative stress, NF-kappaB elevation, inflammation and apoptosis, each of which are increased following EMF exposure. The first citation below shows an important role of VGCC activation in stimulating coronavirus infection.
- “ *Virology.* 2020 Jan 2;539:38-48. Porcine deltacoronavirus (PDCoV) modulates calcium influx to favor viral replication. Bai D, et al.
- “ *J Virol.* 2011 May;85(9):4234-45. Distinct severe acute respiratory syndrome coronavirus-induced acute lung injury pathways in two different nonhuman primate species. Smits SL, et al.
- “ *Cell Calcium.* 2018 Nov;75:30-41. NAADP-dependent Ca²⁺ signaling regulates Middle East respiratory syndrome-coronavirus pseudovirus translocation through the endolysosomal system. Gunaratne GS, et al.
- “ *J Virol.* 2011 May;85(9):4234-45. Distinct severe acute respiratory syndrome coronavirus-induced acute lung injury pathways in two different nonhuman primate species. Smits SL, et al.
- “ *Proteome Sci.* 2011 Mar 8;9:11. Proteomic analysis of chicken embryonic trachea and kidney tissues after infection in ovo by avian infectious bronchitis coronavirus. Cao Z, et al.
- “ *Res Vet Sci.* 2015 Jun;100:12-7. Serum biomarkers of oxidative stress in cats with feline infectious peritonitis. Tecles F, et al.
- “ *J Infect Dis.* 2008 Mar 15;197(6):812-6. Glucose-6-phosphate dehydrogenase deficiency enhances human coronavirus infection. Wu YH et al.
- “ *J Virol.* 1998 Jun;72(6):4918-24. Transmissible gastroenteritis coronavirus induces programmed cell death in infected cells through a caspase-dependent pathway. Eleouet JF, et al.
- “ The predominant cause of death from this coronavirus is pneumonia. Pneumonia is greatly exacerbated by each of those five downstream effects of VGCC activation, excessive intracellular calcium, oxidative stress, NF-kappaB elevation, inflammation and apoptosis. The first of the citations listed below shows that calcium channel blockers, the same type of drugs that block EMF effects, are useful in the treatment of pneumonia. This predicts that EMFs, acting via VGCC activation, will produce increasingly severe pneumonia and therefore 5G radiation as well as other types of EMFs may well increase pneumonia deaths.
- “ Zheng et al. 2016 Preadmission Use of Calcium Channel Blockers and Outcomes After Hospitalization With Pneumonia: A Retrospective Propensity-Matched Cohort Study. *Am J Ther.* 2017 Jan/Feb;24(1):e30-e38.
- “ Fang et al. 2017 Pneumolysin-Dependent Calpain Activation and Interleukin-1 α Secretion in Macrophages Infected with *Streptococcus pneumoniae*. *Infect Immun.* 2017 Aug 18;85(9). pii: e00201-17.
- “ Fettel et al. 2019 Sphingosine-1-phosphate (S1P) induces potent anti-inflammatory effects in vitro and in vivo by S1P receptor 4-mediated suppression of 5-lipoxygenase activity. *FASEB J.* 2019 Feb;33(2):1711-1726.
- “ Liu and Shi. 2019 Calcium-activated chloride channel regulator 1 (CLCA1): More than a regulator of chloride transport and mucus production. *World Allergy Organ J.* 2019 Nov 29;12(11):100077.
- “ *Medicine (Baltimore).* 2018 Nov;97(45):e13087. N-acetylcysteine improves oxidative stress and inflammatory response in patients with community acquired pneumonia: A randomized controlled trial. Zhang Q, et al.

“ *Sci Rep. 2018 Oct 18;8(1):15393. Surfactant protein D attenuates acute lung and kidney injuries in pneumonia-induced sepsis through modulating apoptosis, inflammation and NF-κB signaling. Du J, et al.*

“ *Curr Neurovasc Res. 2020 Jan 28. MicroRNA (miR)-429 promotes inflammatory injury by targeting kruppel-like factor 4 (KLF4) in neonatal pneumonia. Zhang L, et al.*

“ *Life Sci. 2019 Jul 1;228:189-197. Long noncoding RNA SNHG16 targets miR-146a-5p/CCL5 to regulate LPS-induced WI-38 cell apoptosis and inflammation in acute pneumonia. Zhou Z, et al.*

“ *These all argue that 5G radiation is likely to greatly exacerbate the spread of the coronavirus and to greatly increase the lethality of the infections produced by it. The good news is that it is likely that those of us that live in areas with no 5G radiation and who avoid other EMFs wherever possible will probably escape much of the impacts of this prospective global pandemic. It is highly probable that one of the best things Wuhan can do to control the epidemic in the city is to turn off the 4G/5G system. In summary, we have a series of 5G linked events that have occurred in more than one situation, where we have plausible mechanisms by which 5G radiation can cause them and where we know that counter arguments are based on “safety guidelines” which fail to predict biological effects and are, therefore, fraudulent. These include:*

“ *...9. Four downstream effects produced by EMFs acting via VGCC activation, oxidative stress, NF-kappaB elevation, inflammation and apoptosis greatly stimulate both coronavirus infectious process, including aspects involved in viral spreading and also pneumonia, the predominant cause of death in the Wuhan coronavirus epidemic. It follows from this that the “coincidence” that Wuhan, China’s first smart 5G city and location of China’s first 5G highway and the other “coincidence” that the epidemic was first discovered when high 5G antenna densification started, with the severity of the epidemic and death rate increasing very rapidly as circe 8,000 5G antennae were built all over the city of Wuhan. It is, therefore, highly probable that these are not coincidences but rather involve causal roles of 5G EMFs...*

“ *...Possible causation of each of these by 5G radiation could have been tested by animal model studies, before any 5G rollout. It is my opinion that it is an atrocity of almost unbelievable proportions that no such tests have been done.*

“ *All of this argues that 5G presents threats of the sort that we have never seen before – multiple imminent existential threats to our survival.” (Martin L. Pall, Feb. 25, 2020)*

Professor Emeritus Martin Pall


Massive Predicted Effects of 5G in the Context of Safety Guideline Failures:

Very High-Level VGCC Sensitivity to Low-Intensity EMFs and Especially to Pulsations Feb. 25, 2020

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From CEP: Additional citations from the scientific literature, on EMF Portal

“Immune” Literature Results EMF Portal



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- [April 2020](#)
- [March 2020](#)
- [February 2020](#)
- [January 2020](#)
- [December 2019](#)
- [October 2019](#)
- [August 2019](#)
- [July 2019](#)
- [June 2019](#)
- [May 2019](#)
- [April 2019](#)
- [February 2019](#)
- [January 2019](#)
- [December 2018](#)
- [November 2018](#)
- [October 2018](#)
- [August 2018](#)
- [July 2018](#)
- [June 2018](#)
- [May 2018](#)
- [April 2018](#)
- [March 2018](#)
- [February 2018](#)
- [January 2018](#)
- [December 2017](#)
- [November 2017](#)
- [July 2017](#)
- [September 2016](#)
- [June 2016](#)
- [May 2016](#)
- [March 2016](#)
- [December 2015](#)
- [November 2015](#)
- [July 2015](#)
- [April 2015](#)
- [March 2015](#)

- February 2015
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